FORTO CHEMICAL CORPORATION
P.O. Box 910
Guaynabo, P.R. 00970 Tel(809)720-7481/Fax(809)790-1200

# MATERIAL SAFETY DATA SHEET

Conoco Chemicals Company
P.O. Box 19029
Houston, TX 77224

## 1. PRODUCT IDENTIFICATION

| | | | |
|---|---|---|---|
| MANUFACTURER'S NAME | Conoco Chemicals Company | | |
| ADDRESS | 3441 Fairfield Road, Baltimore, MD 21226 | | |
| TRADE NAME | Muriatic Acid | SUBSTANCE NO. 1012 C.A.S.#7647-01-0 | |
| SYNONYMS | Hydrochloric Acid (Aqueous Solution) | | |
| REGULAR TELEPHONE NO. | (301) 355-6200 | EMERGENCY TELEPHONE NO. | (318) 491-5142 |

## 2. HAZARDOUS INGREDIENTS

| MATERIAL OR COMPONENT | % | HAZARD DATA |
|---|---|---|
| Hydrochloric Acid | | |
| 18° Baume | 27 | |
| 20° Baume | 32 | |
| 22° Baume | 35 | |
| 23° Baume | 38 | |

## 3. PHYSICAL DATA

| | | | |
|---|---|---|---|
| BOILING POINT (°F) | 230°F | SPECIFIC GRAVITY ($H_2O$ = 1) | 1.14 to 1.19 |
| VAPOR PRESSURE (mm Hg.) | 30 @ 77°F | PERCENT VOLATILE BY VOLUME (%) | 100 |
| VAPOR DENSITY (AIR = 1) | Approximately 25 for 20° | EVAPORATION RATE (_____ = 1) | |
| SOLUBILITY IN WATER | Miscible | MELTING POINT | -101°F to -63°F |
| APPEARANCE AND ODOR | Colorless to light yellow fuming liquid—strong irritating odor | | |

## 4. FIRE AND EXPLOSION DATA

| | | | | | |
|---|---|---|---|---|---|
| FLASH POINT (TEST METHOD) | Not applicable | | AUTOIGNITION TEMPERATURE | Not applicable | |
| FLAMMABLE LIMITS IN AIR, % BY VOL. | | LOWER | Not applicable | UPPER | Not applicable |
| EXTINGUISHING MEDIA | Select media suitable for surrounding fires. This is a nonflammable material. | | | | |
| SPECIAL FIRE FIGHTING PROCEDURES | Use water spray to cool exposed containers. Self-contained breathing apparatus and full protective clothing should be used when this material is involved in a fire. | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARD | This material can react with most metals to evolve hydrogen gas which is flammable. | | | | |

## HEALTH HAZARD INFORMATION

### FIRST AID

**EYES:** Flush thoroughly with running water for at least 15 minutes. Seek medical aid.

**SKIN:** Flush affected areas with water. Remove contaminated clothing. If irritation or pain persists, seek medical aid.

**INHALATION:** Remove to fresh air. If breathing has stopped, administer artificial respiration, oxygen or cardiopulmonary resuscitation if needed. Seek medical aid.

**INGESTION:** Give limewater or water and milk magnesia to drink. **Do not induce vomiting. Seek medical aid.**

### NATURE OF HAZARD

**EYES:** Corrosive. Liquid contact will cause burning, strong irritation and tissue damage.

**SKIN:** Corrosive. Skin contact will result in tissue damage, burning and strong irritation. Irreversible damage may occur.

**INHALATION:** Strong upper respiratory tract irritant. Inhalation of vapors may result in damage to mucous membranes and other pulmonary effects.

**INGESTION:** Corrosive to tissues contacted.

**EFFECTS OF OVEREXPOSURE:**

**ACUTE OVEREXPOSURE:** Strong irritant, coughing, choking, corrosive to tissue.

**CHRONIC OVEREXPOSURE:** May damage teeth; cause ulceration of mucous membranes and skin.

### THRESHOLD LIMIT VALUE (TLV)

OSHA PEL: 5 ppm as a ceiling value.

### TOXICITY DATA

**SKIN CONTACT:** Animal studies not conducted due to corrosive nature of the material.

**EYE CONTACT:** Animal studies not conducted due to corrosive nature of the material.

**INHALATION:** Rat $LC_{50}$: 3100 ppm (1 hour exposure)
Subchronic exposure to 30-100 ppm produced slight irritation in monkey and small rodents.

**INGESTION:** Rabbit $LD_{50}$: 900 mg/Kg.

**SPECIAL PRECAUTIONS:** **Corrosive—Avoid body contact**

## 6. REACTIVITY DATA

**CONDITIONS CONTRIBUTING TO INSTABILITY**

Contact with metals, metal oxides, hydroxides, amines, carbonates and other alkaline metals.

**INCOMPATIBILITY**

Highly corrosive to many materials.

**HAZARDOUS DECOMPOSITION PRODUCTS**

$H_2$ formed on contact with metals. HCl vapors emitted when heated. $Cl_2$ may be formed by electrolysis or oxidation.

**CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION**

## 7. SPILL OR LEAK PROCEDURES

**STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED**

Stay upwind of large spills. Provide mechanical ventilation where possible. Personnel cleaning up spill should wear full protective equipment and self-contained breathing apparatus. Hazardous substance under the Federal Water Pollution Control Act.

**NEUTRALIZING CHEMICALS**

Soda Ash; Lime

**WASTE DISPOSAL METHOD**

Flush or contain spill in holding area and neutralize with soda ash or lime. Dispose of in accordance with local, state and federal regulations.

## 8. SPECIAL PROTECTION INFORMATION

**VENTILATION REQUIREMENTS**

Local exhaust should be used when handling this material in enclosed areas. Mechanical ventilation should be used whenever possible.

## SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

**RESPIRATORY (SPECIFY IN DETAIL):**

NIOSH approved acid-gas air purifying cannister, or air-supplied equipment.

**EYE:** Chemical goggles and face shield.

**GLOVES:** Rubber gloves with guantlets.

**OTHER CLOTHING AND EQUIPMENT:**

To protect against skin contact, slicker suits and rubber boots should be worn.

## 9. SPECIAL PRECAUTIONS

### HAZARD CLASSIFICATION INFORMATION

| IMCO HAZARD CLASS AND NUMBER | US DOT CLASSIFICATION |
|---|---|
| 8 | Corrosive liquid |
| **UN NUMBER** | **EEC DANGEROUS SUBSTANCE CLASSIFICATION** |
| 1789 | |
| **ADR CLASS NUMBER** | **EEC SPECIAL RISKS AND SAFETY ADVICE** |
| | |
| **CAS NUMBER** | |
| 7647-01-0 | |

### TRANSPORTATION AND STORAGE

| USUAL SHIPPING CONTAINERS | ELECTROSTATIC ACCUMULATION HAZARD |
|---|---|
| Tank cars<br>Tank trucks<br>(Rubber lined or special coatings) | STORAGE/TRANSPORT PRESSURE |
| STORAGE TRANSPORT TEMPERATURE | LOADING/UNLOADING TEMPERATURE |
| | VISCOSITY AT LOADING/ UNLOADING TEMPERATURE |

### HANDLING AND STORAGE MATERIALS AND COATINGS

| SUITABLE | UNSUITABLE |
|---|---|
| Rubber<br>Glass | Metal containers |